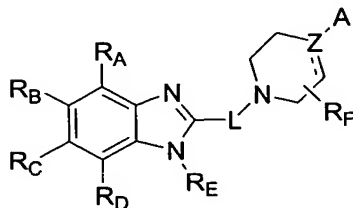


What is claimed is:

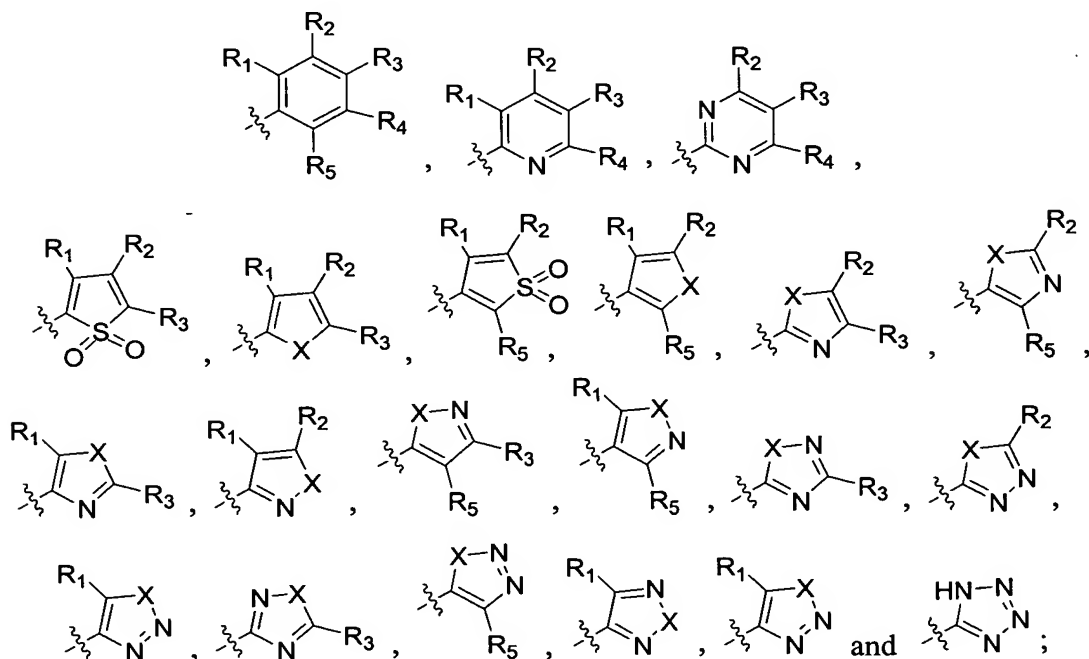
1. A method of treating sexual dysfunction in a mammal comprising administering to said mammal in need of such treatment a therapeutically effective amount of a compound of formula (I)



(I)

a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

A is a selected from the group consisting of



X is selected from the group consisting of NH, O and S;

L is selected from the group consisting of CH₂, CH₂CH₂, CH₂CH₂CH₂ and CH₂CH₂CH₂CH₂;

R₁, R₂, R₃, R₄ and R₅ are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl,

alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ₁Z₂, (NZ₁Z₂)carbonyl and

(NZ₁Z₂)sulfonyl wherein Z₁ and Z₂ are each independently selected from the group consisting of hydrogen, alkyl, alkylcarbonyl, alkylsulfonyl and formyl;

R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl,

5 alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ₁Z₂ and (NZ₁Z₂)carbonyl;

R_E is selected from the group consisting of hydrogen, alkoxycarbonyl, alkyl, alkylcarbonyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and (NZ₁Z₂)carbonyl;

R_F is selected from the group consisting of hydrogen and alkyl;

10 Z is selected from the group consisting of N, C and CH; and

--- is a bond when Z is C and --- is absent when Z is N or CH.

2. The method according to claim 1 wherein

15 R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

Z is N; and

--- is absent.

20 3. The method according to claim 1 wherein

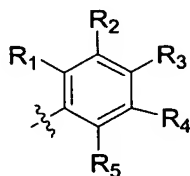
R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

Z is N;

25 --- is absent; and

A is



4. The method according to claim 1 wherein

30 L is CH₂;

R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

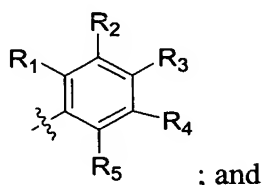
R_E is hydrogen;

R_F is hydrogen;

Z is N;

--- is absent;

A is



R_2 , R_3 and R_4 are each hydrogen.

5. The method according to claim 4 wherein said compound of formula (I) is selected from the group consisting of

2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

2-{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-({4-[2-(methylthio)phenyl]piperazin-1-yl}methyl)-1H-benzimidazole;

2-{[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole; and

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol.

6. The method according to claim 1 wherein

L is CH_2 ;

R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

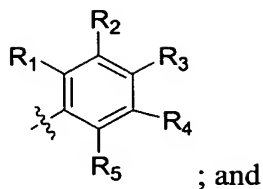
R_E is hydrogen;

R_F is hydrogen;

Z is N;

--- is absent;

A is



R₁, R₂, R₄ and R₅ are each hydrogen.

5 7. The method according to claim 6 wherein said compound of formula (I) is 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol.

8. The method according to claim 1 wherein

R_A, R_B, R_C and R_D are each independently selected from the group consisting of

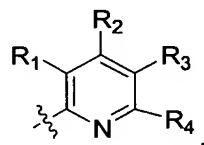
10 hydrogen and halogen;

R_E is hydrogen;

Z is N;

--- is absent; and

A is



15

9. The method according to claim 1 wherein

L is CH₂;

R_A, R_B, R_C and R_D are each independently selected from the group consisting of

20 hydrogen and halogen;

R_E is hydrogen;

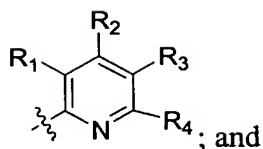
R_F is hydrogen;

Z is N;

--- is absent;

25

A is



R₂, R₃ and R₄ are each hydrogen.

10. The method according to claim 9 wherein said compound of formula (I) is selected
5 from the group consisting of

- 2-{{4-(3-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
5-fluoro-2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
10 2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;
N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-
yl}methanesulfonamide; and
2-{{4-(3-fluoropyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole.

15 11. The method according to claim 9 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.

12. The method according to claim 1 wherein

L is CH₂;

20 R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

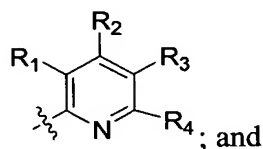
R_E is hydrogen;

R_F is alkyl;

Z is N;

25 --- is absent;

A is



R₂, R₃ and R₄ are each hydrogen.

13. The method according to claim 12 wherein said compound of formula (I) is selected from the group consisting of

2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

5 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole; and

2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole.

14. The method according to claim 1 wherein

R_A, R_B, R_C and R_D are each independently selected from the group consisting of

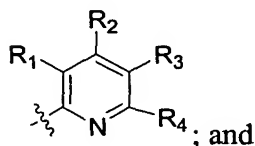
10 hydrogen and halogen;

R_E is hydrogen;

Z is N;

--- is absent;

A is



R₁, R₂, R₃ and R₄ are each independently selected from the group consisting of hydrogen and hydroxy.

15. The method according to claim 1 wherein

20 R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

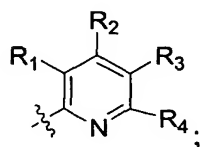
R_F is hydrogen;

L is CH₂;

25 Z is N;

--- is absent;

A is



R₁, R₂ and R₄ are each hydrogen; and
 R₃ is hydroxy.

16. The method according to claim 15 wherein said compound of formula (I) is 6-[4-(1H-
 5 benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

17. The method according to claim 1 wherein

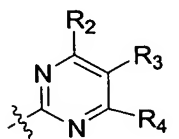
R_A, R_B, R_C and R_D are each independently selected from the group consisting of
 hydrogen and halogen;

10 R_E is hydrogen;

Z is N;

--- is absent; and

A is



18. The method according to claim 1 wherein

L is CH₂;

R_A, R_B, R_C and R_D are each independently selected from the group consisting of
 hydrogen and halogen;

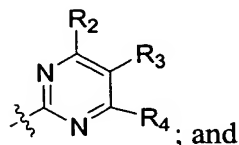
20 R_E is hydrogen;

R_F is hydrogen;

Z is N;

--- is absent;

A is



25 R₂, R₃ and R₄ are each hydrogen.

19. The method according to claim 18 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

20. The method according to claim 1 wherein

R_A , R_B , R_C and R_D are each independently selected from the group consisting of

5 hydrogen and halogen;

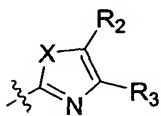
R_E is hydrogen;

Z is N;

--- is absent; and

A is

10



21. The method according to claim 1 wherein

L is CH_2 ;

R_A , R_B , R_C and R_D are each independently selected from the group consisting of

15 hydrogen and halogen;

R_E is hydrogen;

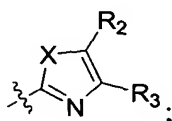
R_F is hydrogen;

Z is N;

--- is absent;

20

A is



R_2 and R_3 are each hydrogen; and

X is S.

25 22. The method according to claim 21 wherein said compound of formula (I) is 2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

23. The method according to claim 1 wherein

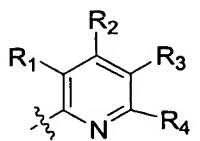
R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is selected from the group consisting of alkoxycarbonyl, alkylcarbonyl, alkyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and (NZ_1Z_2) carbonyl;

5 Z is N;

--- is absent; and

A is



10 24. The method according to claim 1 wherein

L is CH_2 ;

R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

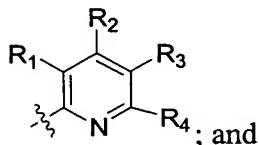
15 R_E is selected from the group consisting of alkoxycarbonyl, alkylcarbonyl, (NZ_1Z_2) carbonyl and heterocyclecarbonyl wherein the heterocycle portion of said heterocyclecarbonyl is pyrrolidinyl;

R_F is hydrogen;

Z is N;

--- is absent;

20 A is



R_2 , R_3 and R_4 are each hydrogen.

25 25. The method according to claim 24 wherein said compound of formula (I) is selected from the group consisting of

isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;

2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole; and

N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide.

26. The method according to claim 1 wherein

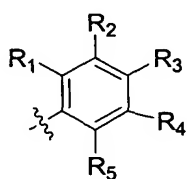
5 R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

Z is CH;

--- is absent; and

10 A is



27. The method according to claim 1 wherein

L is CH₂;

15 R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

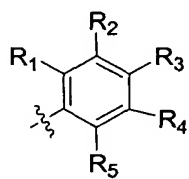
R_E is hydrogen;

R_F is hydrogen;

Z is CH;

20 --- is absent;

A is



; and

R_2 , R_3 and R_4 are each hydrogen.

25 28. The method according to claim 27 wherein said compound of formula (I) is 2-[[4-(2-methoxyphenyl)piperidin-1-yl]methyl]-1H-benzimidazole.

29. The method according to claim 1 wherein

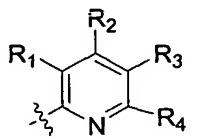
R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

5 Z is CH ;

--- is absent; and

A is



10 . 30. The method according to claim 1 wherein

L is CH_2 ;

R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

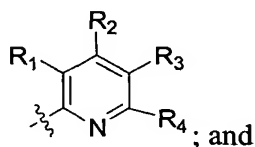
R_E is hydrogen;

15 R_F is hydrogen;

Z is CH ;

--- is absent;

A is



20 R_2 , R_3 and R_4 are each hydrogen.

31. The method according to claim 30 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole.

25 32. The method according to claim 1 wherein

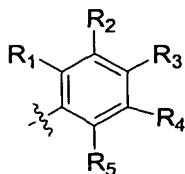
R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

Z is C;

--- is a bond; and

A is



5

33. The method according to claim 1 wherein

L is CH₂;

R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

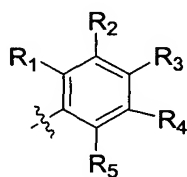
10 R_E is hydrogen;

R_F is hydrogen;

Z is C;

--- is a bond;

A is



15

; and

R₂, R₃ and R₄ are each hydrogen.

34. The method according to claim 33 wherein said compound of formula (I) is 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole.

20

35. A method of treating sexual dysfunction in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with a pharmaceutically acceptable carrier.

25

36. The method according to claim 35 wherein said compound of formula (I) is selected from the group consisting of

- 2-{{4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
 5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 5 2-{{4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
 isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-
 benzimidazole;
 N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-
 10 carboxamide;
 2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
 2-{{4-(2-chlorophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{4-(2-fluorophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 15 2-{{4-(2-nitrophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{4-(2-methoxyphenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
 2-{{4-[2-(methylthio)phenyl]piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{4-(2-ethoxyphenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 20 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
 2-{{4-(2-methoxyphenyl)piperidin-1-yl)methyl}-1H-benzimidazole;
 2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole;
 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;
 2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
 25 2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 2-{{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl}-1H-benzimidazole;
 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-
 yl}methanesulfonamide; and
 30 2-{{4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

37. The method according to claim 35 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

38. The method according to claim 35 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

39. The method according to claim 35 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

40. The method according to claim 35 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

41. A method of treating sexual dysfunction in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with a phosphodiesterase 5 inhibitor.

42. The method according to claim 41 wherein said compound of formula (I) is selected from the group consisting of

- 20 2-{{[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
- 5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
- 5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
- 2-{{[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 25 isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
- 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
- N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;
- 30 2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;
- 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
- 2-{{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

- 2-{{4-(2-fluorophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{4-(2-nitrophenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{4-(2-methoxyphenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
 5 2-{{4-[2-(methylthio)phenyl]piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{4-(2-ethoxyphenyl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
 2-{{4-(2-methoxyphenyl)piperidin-1-yl)methyl}-1H-benzimidazole;
 2-[(4-pyridin-2-yl)piperidin-1-yl)methyl]-1H-benzimidazole;
 10 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;
 2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
 2-{{[(2S)-2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
 2-{{[(2R)-2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole;
 15 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-
 yl}methanesulfonamide; and
 2-{{4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl}-1H-benzimidazole.

43. The method according to claim 41 wherein said compound of formula (I) is 2-[(4-
 20 pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

44. The method according to claim 41 wherein said compound of formula (I) is 2-[(4-
 pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

25 45. The method according to claim 41 wherein said compound of formula (I) is 2-[(4-
 pyrimidin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

46. The method according to claim 41 wherein said compound of formula (I) is 6-[4-(1H-
 benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

30

47. A method of treating sexual dysfunction in a mammal comprising administering to
 said mammal a therapeutically effective amount of a compound of formula (I) or a

pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with an adrenergic receptor antagonist.

48. The method according to claim 47 wherein said compound of formula (I) is selected

from the group consisting of

2-{{4-(3-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;

5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;

5-fluoro-2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-{{4-(1,3-thiazol-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;

isobutyl 2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole-1-carboxylate;

2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole-1-

carboxamide;

2-[(4-phenyl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

2-{{4-(2-chlorophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;

2-{{4-(2-fluorophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;

2-{{4-(2-nitrophenyl)piperazin-1-yl}methyl}-1H-benzimidazole;

2-{{4-(2-methoxyphenyl)piperazin-1-yl}methyl}-1H-benzimidazole;

4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-({4-[2-(methylthio)phenyl]piperazin-1-yl}methyl)-1H-benzimidazole;

2-{{4-(2-ethoxyphenyl)piperazin-1-yl}methyl}-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-{{4-(2-methoxyphenyl)piperidin-1-yl}methyl}-1H-benzimidazole;

2-[(4-pyridin-2-yl)piperidin-1-yl]methyl]-1H-benzimidazole;

2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;

2-{{4-(6-methylpyridin-2-yl)piperazin-1-yl}methyl}-1H-benzimidazole;

2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-{{(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl}methyl}-1H-benzimidazole;

2-{{(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl}methyl}-1H-benzimidazole;

N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and
 2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

- 5 49. The method according to claim 47 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.
50. The method according to claim 47 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).
- 10 51. The method according to claim 47 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.
52. The method according to claim 47 wherein said compound of formula (I) is 6-[4-(1H-
15 benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.
53. A method of treating sexual dysfunction in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof in combination with a
20 dopamine agonist.
54. The method according to claim 53 wherein said compound of formula (I) is selected from the group consisting of
2-[[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
25 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
2-[[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
30 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;

2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

5 2-{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

10 2-({[4-[2-(methylthio)phenyl]piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-{[4-(2-methoxyphenyl)piperidin-1-yl]methyl}-1H-benzimidazole;

2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole;

15 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;

2-{[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;

2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;

20 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-

yl}methanesulfonamide; and

2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

55. The method according to claim 53 wherein said compound of formula (I) is 2-[(4-
25 pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

56. The method according to claim 53 wherein said compound of formula (I) is 2-[(4-
pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

30 57. The method according to claim 53 wherein said compound of formula (I) is 2-[(4-
pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

58. The method according to claim 53 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

59. A method of treating male erectile dysfunction in a male human comprising
 5 administering to said male human in need of such treatment a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.

60. The method according to claim 59 wherein said compound of formula (I) is selected
 10 from the group consisting of

- 2- {[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
- 5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
- 5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
- 15 2- {[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
- isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
- 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
- N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-
- 20 carboxamide;
- 2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;
- 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
- 2- {[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 2- {[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 25 2- {[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 2- {[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
- 2-({4-[2-(methylthio)phenyl]piperazin-1-yl}methyl)-1H-benzimidazole;
- 2- {[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
- 30 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
- 2- {[4-(2-methoxyphenyl)piperidin-1-yl]methyl}-1H-benzimidazole;
- 2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole;

2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;
 2-{[4-(6-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 5 2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-
 yl}methanesulfonamide; and
 2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

10 61. The method according to claim 59 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.

62. The method according to claim 59 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).
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63. The method according to claim 59 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.
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64. The method according to claim 59 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol or a pharmaceutically acceptable salt or prodrug thereof.

25 65. A method of treating female sexual dysfunction in a female human comprising administering to said female human in need of such treatment a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.

30 66. The method according to claim 65 wherein said compound of formula (I) is selected from the group consisting of

2-{[4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

- 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
 5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 2-[[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
 5 isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-benzimidazole;
 N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;
 10 2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
 2-[[4-(2-chlorophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;
 2-[[4-(2-fluorophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;
 2-[[4-(2-nitrophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;
 15 2-[[4-(2-methoxyphenyl)piperazin-1-yl]methyl]-1H-benzimidazole;
 4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
 2-({4-[2-(methylthio)phenyl]piperazin-1-yl}methyl)-1H-benzimidazole;
 2-[[4-(2-ethoxyphenyl)piperazin-1-yl]methyl]-1H-benzimidazole;
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
 20 2-[[4-(2-methoxyphenyl)piperidin-1-yl]methyl]-1H-benzimidazole;
 2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole;
 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;
 2-[[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
 2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 25 2-[[[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;
 2-[[[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;
 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and
 2-[[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.

67. The method according to claim 65 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.

68. The method according to claim 65 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

69. The method according to claim 65 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole or a pharmaceutically acceptable salt or prodrug thereof.

70. The method according to claim 65 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol or a pharmaceutically acceptable salt or prodrug thereof.

71. A method of treating a disorder selected from the group consisting of attention deficit hyperactivity disorder, Alzheimer's disease, drug abuse, Parkinson's disease, schizophrenia, anxiety, mood disorders and depression in a mammal comprising administering to said mammal in need of such treatment a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.

72. The method according to claim 71 wherein said compound of formula (I) is selected from the group consisting of

2-{[4-(3-methylpyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;

5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-{[4-(1,3-thiazol-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;

isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;

2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-

benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;

2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

5 2-{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-{[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

10 2-({4-[2-(methylthio)phenyl]piperazin-1-yl}methyl)-1H-benzimidazole;

2-{[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-{[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;

2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

15 2-{[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;

2-{[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl}-1H-benzimidazole;

N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide; and

2-{[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole.

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73. The method according to claim 71 wherein said compound of formula (I) is selected from the group consisting of

2-{[4-(2-methoxyphenyl)piperidin-1-yl]methyl}-1H-benzimidazole;

2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole; and

25 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole.

74. The method according to claim 71 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

30 75. The method according to claim 71 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

76. The method according to claim 71 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

77. The method according to claim 71 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

78. A method of treating cardiovascular disorders in a mammal comprising administering to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.

79. The method according to claim 78 wherein said compound of formula (I) is selected from the group consisting of

2-{{[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
5,7-dibromo-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
2-{{[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl}-1H-benzimidazole;
isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-

benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;

2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;
2-{{[4-(2-chlorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
2-{{[4-(2-fluorophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
2-{{[4-(2-nitrophenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
2-{{[4-(2-methoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;
2-{{[4-[2-(methylthio)phenyl]piperazin-1-yl]methyl}-1H-benzimidazole;
2-{{[4-(2-ethoxyphenyl)piperazin-1-yl]methyl}-1H-benzimidazole;
2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-[[4-(2-methoxyphenyl)piperidin-1-yl]methyl]-1H-benzimidazole;
 2-[(4-pyridin-2-yl)piperidin-1-yl]methyl]-1H-benzimidazole;
 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;
 2-[[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
 5 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
 2-[[4-(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;
 2-[[4-(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;
 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-
 yl}methanesulfonamide; and
 10 2-[[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.

80. The method according to claim 78 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.

15 81. The method according to claim 78 wherein said compound of formula (I) is 2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole bis((L)tartrate).

82. The method according to claim 78 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.

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83. The method according to claim 78 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

84. A method of treating inflammatory disorders in a mammal comprising administering
 25 to said mammal a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof.

85. The method according to claim 84 wherein said compound of formula (I) is selected from the group consisting of

30 2-[[4-(3-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
 2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]nicotinonitrile;
 5,7-dibromo-2-[(4-pyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;

5-fluoro-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;
 2-[[4-(1,3-thiazol-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;
 isobutyl 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxylate;
 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1-(pyrrolidin-1-ylcarbonyl)-1H-

5 benzimidazole;

N,N-dimethyl-2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole-1-carboxamide;

2-[(4-phenylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]benzonitrile;

10 2-[[4-(2-chlorophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-[[4-(2-fluorophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-[[4-(2-nitrophenyl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-[[4-(2-methoxyphenyl)piperazin-1-yl]methyl]-1H-benzimidazole;

4-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

15 2-[(4-[2-(methylthio)phenyl]piperazin-1-yl)methyl]-1H-benzimidazole;

2-[[4-(2-ethoxyphenyl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]phenol;

2-[[4-(2-methoxyphenyl)piperidin-1-yl]methyl]-1H-benzimidazole;

2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole;

20 2-[(4-phenyl-3,6-dihydropyridin-1(2H)-yl)methyl]-1H-benzimidazole;

2-[[4-(6-methylpyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole;

2-[(2-methyl-4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole;

2-[[[(2S)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;

2-[[[(2R)-2-methyl-4-pyridin-2-ylpiperazin-1-yl]methyl]-1H-benzimidazole;

25 N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-

yl}methanesulfonamide; and

2-[[4-(3-fluoropyridin-2-yl)piperazin-1-yl]methyl]-1H-benzimidazole.

86. The method according to claim 84 wherein said compound of formula (I) is 2-[(4-

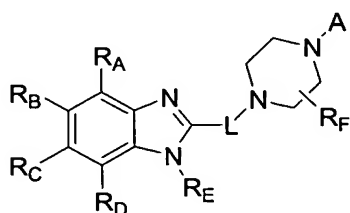
30 pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

87. The method according to claim 84 wherein said compound of formula (I) is 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole bis((L)tartrate).

88. The method according to claim 84 wherein said compound of formula (I) is 2-[(4-pyrimidin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole.

89. The method according to claim 84 wherein said compound of formula (I) is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

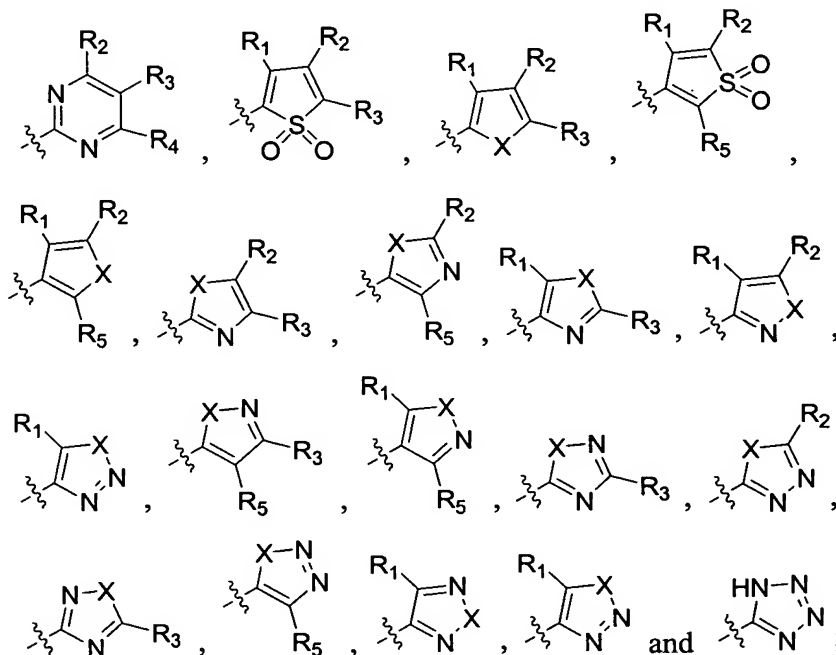
90. A compound of formula (II)



(II)

or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

A is selected from the group consisting of



X is selected from the group consisting of NH, O and S;

L is selected from the group consisting of CH₂, CH₂CH₂, CH₂CH₂CH₂ and CH₂CH₂CH₂CH₂;

R₁, R₂, R₃, R₄ and R₅ are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ₁Z₂ and (NZ₁Z₂)carbonyl wherein Z₁ and Z₂ are each independently selected from the group consisting of hydrogen, alkyl, alkyl carbonyl, alkylsulfonyl and formyl;

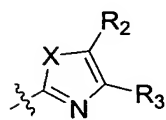
R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxy carbonyl, alkyl carbonyl, alkyl carbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, -NZ₁Z₂ and (NZ₁Z₂)carbonyl;

R_E is selected from the group consisting of hydrogen, alkoxy carbonyl, alkyl, alkyl carbonyl, aryl carbonyl, cycloalkyl carbonyl, heterocycle carbonyl and (NZ₁Z₂)carbonyl;

and

R_F is selected from the group consisting of hydrogen and alkyl;

provided that when A is



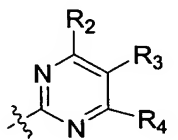
and X is S, then R₂ or R₃ is other than hydrogen.

91. A compound according to claim 90 wherein

R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen; and

A is



92. A compound according to claim 90 wherein

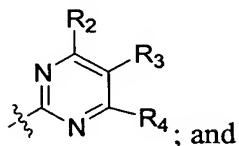
R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

R_F is hydrogen;

L is CH_2 ;

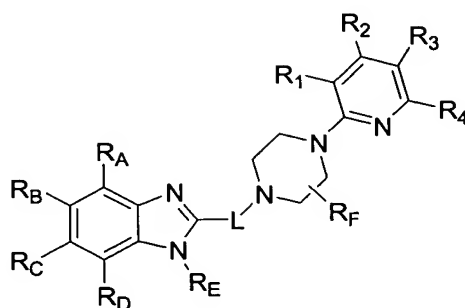
A is



R_2 , R_3 and R_4 are each hydrogen.

93. A compound according to claim 92 that is 2-[(4-pyrimidin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

10 94. A compound of formula (III)



(III)

or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

15 R_1 , R_2 , R_3 and R_4 are each independently selected from the group consisting of hydrogen, alkylsulfinyl, alkylsulfonyl, alkylsulfonylamino, alkylthio and hydroxy;

L is selected from the group consisting of CH_2 , CH_2CH_2 , $CH_2CH_2CH_2$ and $CH_2CH_2CH_2CH_2$;

20 R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, $-NZ_1Z_2$ and (NZ_1Z_2) carbonyl wherein Z_1 and Z_2 are each independently selected from the group consisting of hydrogen, alkyl, alkylcarbonyl, alkylsulfonyl and formyl;

R_E is selected from the group consisting of hydrogen, alkoxycarbonyl, alkyl, alkylcarbonyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and (NZ₁Z₂)carbonyl; and

R_F is selected from the group consisting of hydrogen and alkyl;

5 provided that when R_F is hydrogen, than at least one of R₁, R₂, R₃, or R₄ is other than hydrogen;

95. A compound according to claim 94 wherein

10 R₁, R₂, R₃ and R₄ are each independently selected from the group consisting of hydrogen and hydroxy;

R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen; and

R_E is hydrogen.

15 96. A compound according to claim 94 wherein

R₁, R₂ and R₄ are each hydrogen;

R₃ is hydroxy;

L is CH₂;

20 R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen; and

R_F is hydrogen.

25 97. A compound according to claim 96 that is 6-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-ol.

98. A compound according to claim 94 wherein

R₁, R₂, R₃ and R₄ are each hydrogen;

L is CH₂;

30 R_A, R_B, R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen; and

R_F is alkyl.

99. A compound according to claim 98 selected from the group consisting of
 2-[(2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole;
 2-[(2S)-2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole; and
 2-[(2R)-2-methyl-4-pyridin-2-yl)piperazin-1-yl)methyl]-1H-benzimidazole.

100. A compound according to claim 94 wherein

R₁, R₂, R₃ and R₄ are each independently selected from the group consisting of
 hydrogen and alkylsulfonylamino;

R_A, R_B, R_C and R_D are each independently selected from the group consisting of
 hydrogen and halogen; and

R_E is hydrogen.

101. A compound according to claim 94 wherein

R₂, R₃ and R₄ are each hydrogen;

R₁ is alkylsulfonylamino;

L is CH₂;

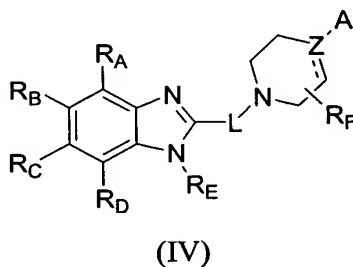
R_A, R_B, R_C and R_D are each independently selected from the group consisting of
 hydrogen and halogen;

R_E is hydrogen; and

R_F is hydrogen.

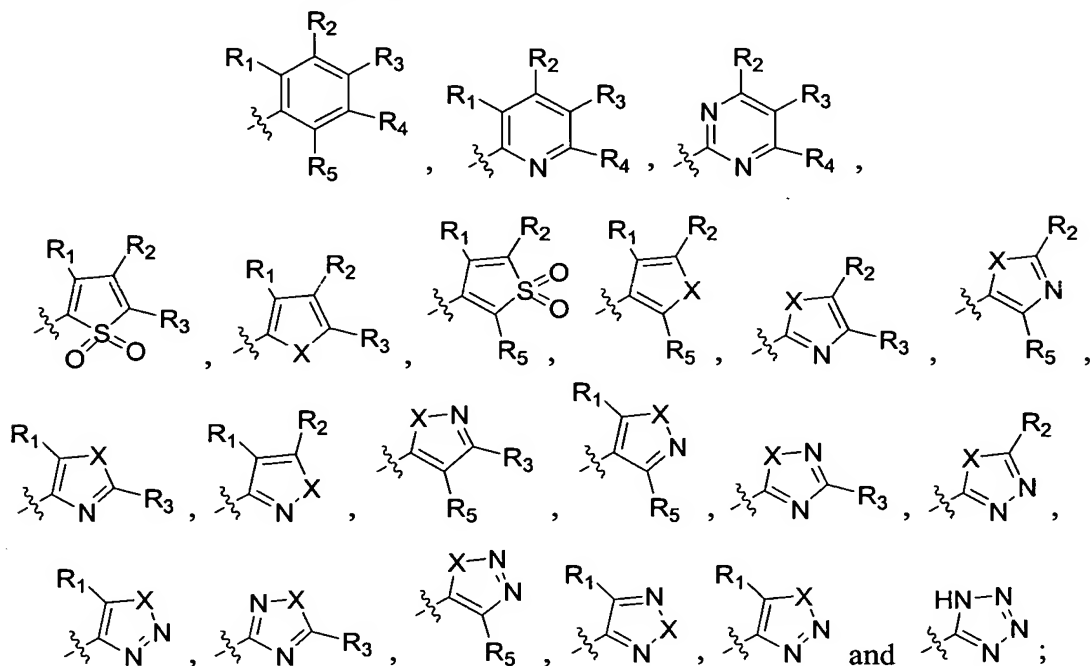
102. A compound according to claim 101 that is N-{2-[4-(1H-benzimidazol-2-ylmethyl)piperazin-1-yl]pyridin-3-yl}methanesulfonamide.

103. A compound of formula (IV)



or a pharmaceutically acceptable salt, ester, amide, or prodrug thereof, wherein

A is selected from the group consisting of



X is selected from the group consisting of NH, O and S;

- 5 L is selected from the group consisting of CH_2 , CH_2CH_2 , $\text{CH}_2\text{CH}_2\text{CH}_2$ and $\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2$;

- R_1 , R_2 , R_3 , R_4 and R_5 are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, $-\text{NZ}_1\text{Z}_2$ and $(\text{NZ}_1\text{Z}_2)\text{carbonyl}$ wherein Z_1 and Z_2 are each independently selected from the group consisting of hydrogen, alkyl, alkylcarbonyl, alkylsulfonyl and formyl;
- 10

- R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen, alkoxy, alkenyl, alkyl, alkylsulfinyl, alkylsulfonyl, alkylthio, alkynyl, alkoxycarbonyl, alkylcarbonyl, alkylcarbonyloxy, carboxy, cyano, formyl, halogen, haloalkoxy, haloalkyl, hydroxy, hydroxyalkyl, mercapto, nitro, $-\text{NZ}_1\text{Z}_2$ and $(\text{NZ}_1\text{Z}_2)\text{carbonyl}$ wherein Z_1 and Z_2 are each independently selected from the group consisting of hydrogen, alkyl, alkylcarbonyl, alkylsulfonyl and formyl;
- 15

- R_E is selected from the group consisting of hydrogen, alkoxycarbonyl, alkyl, alkylcarbonyl, arylcarbonyl, cycloalkylcarbonyl, heterocyclecarbonyl and $(\text{NZ}_1\text{Z}_2)\text{carbonyl}$;
- 20

R_F is selected from the group consisting of hydrogen and alkyl;

Z is selected from the group consisting of C and CH; and

--- is a bond when Z is C and --- is absent when Z is CH.

5 104. A compound according to claim 103 wherein

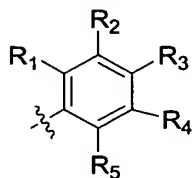
R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

Z is CH;

10 --- is absent when Z is CH; and

A is



105. A compound according to claim 103 wherein

15 R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

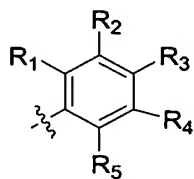
R_F is hydrogen;

L is CH_2 ;

20 Z is CH;

--- is absent when Z is CH;

A is



; and

R_2 , R_3 and R_4 are each hydrogen.

25

106. A compound according to claim 105 that is 2-{[4-(2-methoxyphenyl)piperidin-1-yl]methyl}-1H-benzimidazole.

107. A compound according to claim 103 wherein

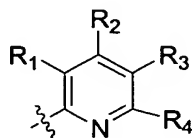
R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

5 R_E is hydrogen;

Z is CH;

--- is absent when Z is CH; and

A is



10

108. A compound according to claim 103 wherein

R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

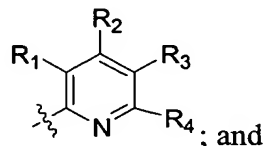
15 R_F is hydrogen;

L is CH_2 ;

Z is CH;

--- is absent when Z is CH;

A is



20

R_2 , R_3 and R_4 are each hydrogen.

109. A compound according to claim 108 that is 2-[(4-pyridin-2-ylpiperidin-1-yl)methyl]-1H-benzimidazole.

25

110. A compound according to claim 103 wherein

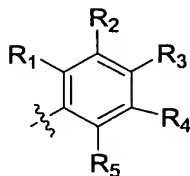
R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

Z is C;

--- is a bond; and

A is



111. A compound according to claim 103 wherein

R_A , R_B , R_C and R_D are each independently selected from the group consisting of hydrogen and halogen;

R_E is hydrogen;

R_F is hydrogen;

L is CH_2 ;

Z is C;

--- is a bond;

A is



; and

R_2 , R_3 and R_4 are each hydrogen.

112. A salt of the compound 2-[(4-pyridin-2-ylpiperazin-1-yl)methyl]-1H-benzimidazole

wherein said salt is selected from the group consisting of adipate, alginate, citrate, aspartate, benzoate, benzenesulfonate, bisulfate, butyrate, camphorate, camphorsulfonate, digluconate, glycerophosphate, hemisulfate, heptanoate, hexanoate, fumarate, sesqui(fumarate),

hydrochloride, dihydrochloride, trihydrochloride, hydrobromide, hydroiodide, 2-hydroxyethanesulfonate (isethionate), lactate, maleate, methanesulfonate, nicotinate, 2-

naphthalenesulfonate, oxalate, pamoate, pectinate, persulfate, 3-phenylpropionate, picrate, pivalate, propionate, succinate, sulfate, bis(tartrate), tartrate, (L) tartrate, bis((L) tartrate), (D) tartrate, bis((L) tartrate), (DL) tartrate, bis((DL) tartrate), meso-tartrate, bis(meso tartrate),

thiocyanate, phosphate, glutamate, bicarbonate, bis((D)tartrate), bis(bromide), bis(sulfate), bis(phosphate), tris(hydrochloride), p-toluenesulfonate, and undecanoate.

113. The compound of claim 112 wherein said salt is selected from the group consisting of
5 bis((L) tartrate), bis((D) tartrate), bis((DL) tartrate), bis(bromide), bis(sulfate), bis(phosphate), fumarate, sesqui(fumarate), and tris(hydrochloride).